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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/482,327	01/14/2000	Jeffrey Dwork	52352-314	6835

20277 7590 10/21/2003

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EXAMINER	
PARTON, KEVIN S	
ART UNIT	**PAPER NUMBER**
2153	10

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/482,327	DWORK ET AL.	
	Examiner	Art Unit	
	Kevin Parton	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The examiner withdraws the finality of the previous Office Action. A new grounds of rejection is stated below.

Response to Arguments

2. Applicant's arguments filed 08/05/2003 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-11, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daines et al. (USPN 6,192,422) in view of Joung et al. (USPN 6,628,613).

5. Regarding claim 1, Daines et al. (USPN 6,192,422) teach a system comprising:

a. A local bus (figure 1).

b. A host processor coupled to the local bus (figure 2, element 18).

c. A network interface for providing an interface between the local bus and a network medium (figure 2, element 18)

d. A memory coupled to the local bus, the memory having receive buffers allocated for receiving data from the network medium (figure 2).

e. The network interface including an automatic flow control mechanism for automatically controlling a flow of data from the network medium based on

availability of the receive buffers (figure 2, element 25; column 5, lines 25-29).

f. Wherein in a first flow control mode initiated when a flow control signal is at a first logic level, an automatic flow control mechanism is automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting a remote transmitter coupled to the network medium to suspend data transmission until a predetermined number of the receive buffers is available (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein in a second flow control mode initiated when the flow control mode signal is at a second logic level, the automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting the remote transmitter coupled to the network medium to suspend data transmission for a predetermined time.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422), as evidenced by Joung et al. (USPN 6,628,613).

In an analogous art, Joung et al. (USPN 6,628,613) discloses a system for activation of flow control based on buffer availability wherein the automatic flow control mechanism is configured to respond to a shortage of the receive buffers by automatically requesting the remote transmitter coupled to the network medium to suspend data transmission for a predetermined time (column 3, lines 43-46; column 4, lines 17-20).

Given the teaching of Joung et al. (USPN 6,628,613), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Daines et al. (USPN 6,192,422) by employing the use of a timer to determine when transmission from the transmitting node can resume. The system benefits by not having to spend processor time measuring the lower threshold of the buffer and then sending a message to the transmitting node. This saves processor time and network congestion. The benefit of having both the lower threshold and the time-based resumption of transmission can be used to differentiate between buffers utilized for different purposes. Those in extremely high traffic and critical applications may need to use the former, the lower priority applications may use the time-based method.

6. Regarding claim 4, Daines et al. (USPN 6,192,422) all the limitations as applied to claim 1. They further teach a management unit for managing receive buffers (column 6, lines 58-62).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of

this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

7. Regarding claim 5, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 4. They further teach means wherein the automatic flow control mechanism is configured to detect availability of the receive buffers available for receiving data from the network medium (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

8. Regarding claim 6, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 5. They further teach means wherein the automatic flow control mechanism is configured to automatically request the remote transmitter to suspend data transmission when the buffer availability drops below a first threshold value (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

9. Regarding claim 7, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 6. They further teach means wherein the automatic flow control mechanism is configured to enable the remote transmitter to resume data transmission when buffer availability rises above a second threshold level (column 7, lines 18-26).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

10. Regarding claim 8, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 7. They further teach means wherein the second threshold value is higher than the first threshold value (column 7, lines 6-26). Please note that the reference and the claims use inverse notation to describe the thresholds, but they are the same. The claims refer to buffer availability, whereas the reference refers to the amount of the buffer that is occupied. According to the disclosure, the second threshold of the reference is lower than the first, but if put in the context of the claims, the buffer has a higher availability, thus it monitors a higher threshold of buffer availability.

11. Regarding claim 9, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 5. They further teach means wherein the automatic flow control mechanism is configured to automatically request the remote transmitter to suspend data transmission when the buffer availability drops below a preprogrammed threshold value (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

12. Regarding claims 10, 18, and 21, although the system disclosed by Daines et al. (USPN 6,192,422) (as applied to claims 9, 17, and 19, respectively) shows substantial features of the claimed invention, it fails to disclose means wherein:

a. The automatic flow control mechanism is configured to enable the remote transmitter to resume data transmission after a preprogrammed time interval, if the available buffer is not less than the preprogrammed threshold value.

b. The buffers are referred to by descriptors.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422), as evidenced by Joung et al. (USPN 6,628,613).

In an analogous art, Joung et al. (USPN 6,628,613) discloses a system for activation of flow control based on buffer availability wherein the automatic flow control mechanism is configured to enable the remote transmitter to resume data transmission after a preprogrammed

time interval, if the available buffer is not less than the preprogrammed threshold value (column 3, lines 43-46; column 4, lines 17-20; column 5, lines 37-45).

Given the teaching of Joung et al. (USPN 6,628,613), a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Daines et al. (USPN 6,192,422) by employing the use of a timer to determine when transmission from the transmitting node can resume. The system benefits by not having to spend processor time measuring the lower threshold of the buffer and then sending a message to the transmitting node. This saves processor time and network congestion. The benefit of having both the lower threshold and the time-based resumption of transmission can be used to differentiate between buffers utilized for different purposes. Those in extremely high traffic and critical applications may need to use the former, the lower priority applications may use the time-based method.

Further, the Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

13. Regarding claim 11, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 5. They further teach means wherein the network interface is configured to store information indicating a read pointer of the host processor that points to a next buffer that should

be processed by the host processor (abstract; column 7, lines 6-13). Note that the reference uses a round robin technique to service buffers.

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

14. Claims 12-17, 19, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Daines et al. (USPN 6,192,422).

15. Regarding claim 12, Daines et al. (USPN 6,192,422) teach a network interface device for providing an interface between a data network and a computer system, the device comprising:

a. A management unit for managing receive buffers allocated to receive data from the network medium (column 6, lines 58-62).

b. An automatic flow control mechanism for automatically performing flow control in accordance with buffer availability for receiving data from the

network medium (figure 2, element 25; column 5, lines 25-29; column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).
The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

16. Regarding claim 13, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 12. They further teach means wherein the receive buffers are arranged in a memory of the computer system (figure 1).

17. Regarding claim 14, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 12. They further teach means wherein the automatic flow control mechanism is configured to automatically request a remote station in the data network to suspend data transmission with the buffer availability drops below a first threshold value (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

18. Regarding claims 15 and 20, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claims 14 and 19, respectively. They further teach means wherein the automatic flow control mechanism is configured to enable the remote transmitter to resume data transmission when buffer availability rises above a second threshold level (column 7, lines 18-26).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

19. Regarding claim 16, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 15. They further teach means wherein the second threshold value is higher than the first threshold value (column 7, lines 6-26). Please note that the reference and the claims use inverse notation to describe the thresholds, but they are the same. The claims refer to buffer availability, whereas the reference refers to the amount of the buffer that is occupied. According to the disclosure, the second threshold of the reference is lower than the first, but if put in the context of the claims, the buffer has a higher availability, thus it monitors a higher threshold of buffer availability.

20. Regarding claim 17, Daines et al. (USPN 6,192,422) teach all the limitations as applied to claim 12. They further teach means wherein the automatic flow control mechanism is configured to automatically request the remote transmitter to suspend data transmission when the buffer availability drops below a preprogrammed threshold value (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

21. Regarding claim 19, Daines et al. (USPN 6,192,422) teach a system of automatic flow control in a network interface between a data network and a computer system with means for:

a. Monitoring the buffers in the computer system available for receiving data from the network (column 5, lines 25-29).

b. Automatically requesting a remote station in the data network to suspend data transmission when the buffer availability drops below a first preprogrammed threshold level (column 7, lines 6-13).

Although the system disclosed by Daines et al. (USPN 6,192,422) shows substantial features of the claimed invention, it fails to disclose means wherein the buffers are specifically referred to by descriptors.

Nonetheless, these features are well known in the art and it would have been an obvious modification of the system disclosed by Daines et al. (USPN 6,192,422).

The Microsoft Press Computer Dictionary defines 'descriptor' as "...a piece of stored information used to describe something else, often in terms of structure, content, or some other property" (page 140, column 1). Since the flow control apparatus of the reference must have name and location information for the managed buffer, the function of a descriptor is inherent. Specifically calling this information a 'descriptor' does not further limit the claim. The use of this identifying information benefits the system by allowing each buffer to be distinguished by name or location.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see the following:

a. Johnson et al. (USPN 5,822,300)

b. Lin et al. (USPN 6,405,256)

c. Furuya (USPN 6,452,943)

d. Neet et al. (USPN 6,412,032)

e. Yin (USPN 6,219,728)

f. Loughran et al. (USPN 6,570,848)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Parton whose telephone number is (703)306-0543. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703)305-4792. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Kevin Parton
Examiner
Art Unit 2153

ksp

Dung C. Dinh
Primary Examiner